

Curriculum Vitae

Name:	Prof. Rajaram Choyal	
Date of Birth:	16-09-70	
Present Position:	Professor (Since June 7, 2014)	
Department:	Environmental Science	
Pay Scale +Grade Pay:	L-14	
Mailing Address:		
Office: - Department of Environmental Science Academic Block-I Maharaja Ganga Singh University, N.H.-15, Jaisalmer Road, Bikaner (Raj.) India- 334004		Residence: 48- 49 Vijay Vihar Behind Sophia School Jaipur Road, Bikaner. 334001,(Raj) India.
Telephone No.: 0151-2940423 (R)		Mobile No.: 09414298123 E-mail: choyalrr@gmail.com choyalrr@mgsbikaner.ac.in
Qualifications: M.Sc. Ph.D. (Botany)		
Specialization: Environmental Biology		
Teaching experience	1. August 10, 1996 to June 06, 2011 Undergraduate and Postgraduate teaching of Botany and Microbiology at M.D. P.G College, Sri Ganganagar. 2. June, 07 2011 to till date teaching of Postgraduate in the Department of Environmental Science Maharaja Ganga Singh University, Bikaner.	
Administrative Responsibilities: - 1. Dean Faculty of Science (26-06-2019 to 25-06-2021 and (01-04-2023 to 31-03-2025) 2. Controller of Examination (26-06-2021 to 25-06-2025) and (23-08-2025 to till date) 3. Centre for Studies on Marginal Societies (28-04-2026 to till date) 4. Incharge MGS, Chair for Sustainable Development (05-07-2024 to till date) 5. Chief Proctor (08-05-2017 to 20-04-2022) 6. Proctor (03-08-2011 to 07-05-2017) 7. Member, Board Management (15-06-2018 to till date) 8. Member, Academic Council (22-02-2017 to till date) 9. External Member Academic Council of Tanta University, Sri Ganganagar (2021 to continue) 10. Director Research (21-06-2018 to 18-07-2021) 11. Dean Students Welfare (28-04-2014 to 10-05-2017) 12. Convener, Flying Squad Constitution Committee (25-02-2017 to 25-06-2021) 13. Convener, Question paper Grievance Committee (26-02-2018 to 25-06-2021) 14. Coordinator, M.Phil- Ph.D. Entrance Examination (MPCET)-2018 15. Coordinator, Ph.D. Course work- 2016 and 2018 16. Member, University Finance Committee (2021-22, 2022-23, 2023-24 and 2024-25) 17. Member, IQAC (2018 to till date) 18. Director Thar Desert Research Center (23-09-2017 to 28-04-2026) 19. Member division level quality assurance cell (DLQAC) (2020 -2021) 20. Nodal Officer and Incharge, Students Grievance and Redressal Cell (03-12-2014 to 21-08-2019) 21. Coordinator, Ant- Ragging Squad Cell (22-08-2019 to 30-03-2022) 22. Head, Department of History (25-01-2021 to 19-08-2021), Commerce and Management (25-01-2022 to 30-03-2022), Director School Law (30-03-2022 to 13-04-2024), Drawing and Painting (22-01-2021 to 26-07-2025), English (16-05-2022 to 30-06-2022), Geography (26-07-2025 to 06-10-2025) and Microbiology (30-03-2022 to 26-07-2025) 23. Convener, Board of Studies Environmental Science (25-10-2018 to 25-06-2019 and 07-04-2025 to till date) 24. Member of Institutional Ethics Committee (09-02-2021 to till date) 25. Coordinator, Students Grievance Redressal Cell and University Teacher and Employees Grievance Redressal Cell (30-03-2022 to till date) 26. DDO (16-02-2022 to 13-06-2022)		

Research Projects and Grants:				
S. No	Title	Grant Period	Cost (In lacs)	Funding Agency
1.	Completed a Minor Research Project on “Diversity and Habitat Ecology of Bryophytes in Northern irrigated Land of Thar Desert”	2 Years	0.5	UGC
2.	Co-PI of ongoing Project “GIS Mapping of Microbial Population for their Geographical Position, Geological and Geochemical Habitats to Explore Oil and Gas Reservoirs in Jaisalmer Sub-Basins of Thar Desert” in collaboration with BISR, Jaipur	3 Years	48,46,664	DST, Delhi
Publications				
I. Books published: 09				
1.	Plant Anatomy and physiology, Sonali Publications, New Delhi (ISBN. – 978-81-841- 450-8) (2012).			
2.	Aromatic and essential oil plants, Sonali Publications, New Delhi (ISBN. 978-81-8411-478-2) (2012).			
3.	Textbook of Environmental Science and Technology, RBSA Publishers, Jaipur (ISBN. 978-81-7611-630-2) (2012).			
4.	Hand book of Plant Nutrition, RBSA Publishers, Jaipur (ISBN. 978-81-7611-631) (2012).			
5.	Medicinal plants cultivation Wisdom press publication, New Delhi ISBN. 978-93-82006-22-0) (2013).			
6.	Plant Ecology Green Leaf Publication Varanasi, India (ISBN. 978-93-8210-85-5) (2013).			
7.	Handbook of Biofertilizers and Biopesticides Black Prints New Delhi (ISBN. 978-93-82036-68-5) (2014).			
8.	Ethnobotany “A Recent Approach” Madhu publications, Bikaner (ISBN. 81-86644-26-1) (2015).			
9.	Soil, Plant Water analysis and Nutrient Management in Vegetable Crops, New India Publishing Agency-Nipa (27 June 2020) (ISBN-10 938913014X ISBN-13 978-9389130140).			
II. Research Papers Published: 56				
A. International Journals:		Total Numbers of paper-35 (detail list attached)		
B. National Journals:		Total Numbers of paper-21 (detail list attached)		
C. Chapters in Edited Books		08		
D. Papers Presented in Conference / Seminar/ Symposium		26		
E. Invited Lectures		29		
Research Supervised-Ph.D./M.Phil. (Name of student and title):				
Ph.D. Thesis Supervised: 16				
S.No.	Name of Scholar	Title of Thesis	Year of Ph.D. Awarded	
1	Mrs Nupur Sinha	Ecophysiological studies on <i>Boerhaavia diffusa</i> Linn. (Nyctaginaceae) with reference to Distt. Sriganganagar	2008	
2	Mrs. Sawarn Rekha	Comparative studies on primary and secondary metabolities production by some parasitic Angiosperm and their hosts of AridZone of Rajasthan grown in vivo & in vitro.	2009	
3	Mrs. Ruchi	Diversity and habitat Ecology of Bryophytes in Northern irrigated land of Thar Desert.	2009	
4	Ms. Nidhi Sharma	Comparative Phytochemical Analysis of <i>Bacopa moncieri</i> L. in vivo and vitro conditions.	2010	

5	Ms. Urmila	Effect of seasonal variations on Nutrient contents of some Medicinal weeds in District. Sriganganagar.	2010
6	Mr. Sanjay Kumar Sharma	Studies on Mosses of Dharmshala Thsile, Kangra, Dist- Himachal Pradesh”	2012
7	Ms. Rekha Karwasra	Diversity of soil micro flora in district, Sriganganagar	2012
8	Nitesh Kumar	Ethnobotanical survey of District Hamirpur, Himachal Pradesh.	2013
9	Vishal Kumar Chhimpa	Studies on antimicrobial potential of arid zone plants of Northern Rajasthan.	2014
10.	Shailender Arora	Studies on the effect of roadside pollution on the photochemistry of certain plants in Southern Delhi.	2016
11.	VedPrakash Siraw	Studies On Pollen Flora of Irrigated Parts of SriGanganagar Rajasthan	2017
12.	Ashwani Kumar	Studies on impact of Indira Gandhi Nahar Pariyojana on Phytodiversity in division Bikaner, Rajasthan.	2020
13.	Ms. Vinod Kumari	Study on vegetation and physicho -chemical properties of soil in water logged area of Indira Gandhi Canal in Stage- I	2020
14.	Mahendra Singh	Comparative Analysis of Heavy metals in selected herbivore’s feces in different habitats of western Rajasthan.	2020
15.	Pankaj Kumar	Quality Assessment of Irrigation Water, its impact on nutrients uptake and Physio-chemical properties of Soil around Bikaner City.	2021
16	Divyaman Singh	Phytoremediation study of Heavy Metal contaminated soil in Industrial area of Bikaner City.	2024

Ph.D. Synopsis Submitted: 06

S.No.	Name of Scholar	Title of Synopsis	Year of Synopsis
1	Jaikishan Chhangani	Socio- Ecological and Environmental Risk Assessment of Pesticide Residues and Industrial Pollution in the Banas River Ecosystem, Rajasthan	2025
2	Sumit Khatri	Role of Indian Knowledge System in Environmental Conservation with Particular Reference to Thar Desert, Rajasthan, India	2025
3	Saransh Kumar Srivastava	Petrological and Geochemical Signatures of Igneous Rocks and Environmental implications of Rare Earth Element Mineralization in the Siwana Ring Complex, Northwestern Rajasthan	2025
4	Jitendra Yadav	Impact of Heavy Metal Contamination from Industrial Wastewater on Selected Crops Around Jaipur city	2025
5	Amita Baghla	Studies on the Physicochemical Properties of Indira Gandhi Nahar Pariyojana with Special reference to Heavy metal, Microbial and Pesticide Contamination	2025
6	Manju Saini	GIS mapping of Physicochemical, Heavy metal and microbial status of soil in Hanumangarh District of Thar Desert (Rajasthan)	2025

M. Phil Dissertation Supervised: 32		
S.No.	Name Of Candidate	Title of Dissertation
1.	Shiv Goutam Solanki	Effect Of Saline Irrigation On Chickpea (<i>Cicer arietinum</i>), Genotypes
2.	Suman Sharma	Effect Of Air Pollution On Road side Plant Of District SriGanganagar
3.	Ms.Ramndeeep Kaur	Phytochemical Analysis Of (<i>Chenopodium album</i> And <i>Nicotina plumbaginifolia</i>)
4.	Ms.Yogpreet Kaur	The Phytochemical Analysis Of Some Plants From District Ganganagar
5.	Vinod Kumari	Ecological And Ethnobotanical Studies Of Rajasthan Desert With Special Reference To Jhunjhunu District
6.	Surender Kumar	Ecological Study on Bryophytes Of Sri Ganganagar District
7.	Miss Alisha Madan	Phytochemical Analysis Of <i>Datura stramonium</i> And <i>Trianthma portulacastrum</i>
8.	Rajni Sharma	A Study Of Environmental Awareness In Anupgarh Tehsil
9.	Sanjay Kumar	Physico-Chemical Characterization Of The Sewage Of SriGanganagar And Modeling Of The Sewage Treatment System
10.	Suman Saini	Fluoride Distribution In Ground Water of Jhunjhunu District And Fluorosis In Rajasthan
11.	Mamta Arora	Physico-Chemical Characterization Of The Soil Of District Sri Ganganagar (Rajasthan)
12.	Sandeep Kumar	Study Of Soil Micro flora Of SriGanganagar District With Special Reference To Algae And Fungi
13.	Surendra Singh	Bio Medical Waste Treatment With Special Reference To Bhagwandas Khetan Hospital, Jhunjhunu (Raj.)
14.	Kshama Sharma	Study Of Morpho-Physiological Changes In Soyabean As Influenced By Climatic Changes Of Himachal Pardesh
15.	Richa Sharma	Study Of Medicinal Plants Of Himachal Pradesh
16.	Miss Poonam Sharma	Physico-Chemical Analysis Of Soil Of Thar Desert
17.	Manuja	Impact Of Saline Water Irrigation On Physico-Chemical Properties Of Soil Around SriGanganagar City
18.	Miss Madhu Sharma	Identification Of Weed Flora In Rabi Crop In Sriganganagar
19.	Lokesh Gautam	Ethnomedicinal Plants Of Jhalawar District (Rajasthan)
20.	Bhanwar Singh Hada	A Study Of Environmental Awareness Among The Students Of Kota City(Raj.)
21.	Sunita Sharma	Ethnobotanical Study Of Rajasthan Desert With Special Reference To Bikaner District.
22.	Poonam Rajvi	A Study Of Environmental Awareness In Sikar City.
23.	Abhishek Chura	Impact Of Saline Water Irrigation On Physio-Chemical Properites Of Soil In Hanumangarh District.
24.	MoolchandBanyla	Studies Of Two Meliaceae Trees With Reference To Nutrition Value.
25.	Mr. Vikash	PhenologicalStudyOn <i>Marsilea</i> Population
26.	Ms.Rita Choudhary	The Phytochemical StudyOnSomePlantsOf TheDesertRegion
27.	Mr. Rajender Kumar	Studies On Germination Behaviour Of Weeds Of Rabi Crop
28.	Ms.Rekha Karwasra	Bacteriological Analysis Of Urinary Tract Infection Of SriGanganagar Zone
29.	Mr.Dharmendra Kumar kuwal	Biodiversity And Ecological Invvestigations Of Arid Zone Plants

30.	Ms.Suman Sharma	Micropropagation Of <i>Bacopa Monneiri</i> L. Penn.- An Important Medicinal Plant
31.	Ms.Sheenu Booti	Comparative Studies On The Electrophoretic Pattern Of Serum And Milk Whey Protein In Dromedary Camels
32.	Smt.Sharmishtha Sharma	Water Logging Problem In Hanumangarh District And Surrounding Areas
M.Sc. Dissertations: 16		
1.	Mr. Divyaman Singh Rathore	A study of Phytodiversity in the Campus of Maharaja Ganga Singh University, Bikaner
2.	Ms.Om Kanwar Rathore (2016-17)	Assessment of Air Pollution Tolerance Index of selected plants of Bikaner City (Rajasthan)
3.	Ms.Neha Solanki (2016-17)	A study of Phytodiversity in the campus of Maharaja Ganga Singh University, Bikaner
4.	Ms. Chandrika Thapa	A study of Environmental Awareness in Bikaner
5.	Ms. Pooja Kumari (2017-18)	A study of Environmental Awareness in Bikaner city.
6.	Ms. Seema Acharya (2018-19)	Studies on morphological and anatomical adaptation of some selected plant species from Maharaja Ganga Singh University (Campus), Bikaner.
7.	Mr. Dhanraj Choudhary	A study of Adaptation in Flora fauna: with particular reference of hot desert
8.	Ms. Suman Jodha (2019-20)	Case study of Environmental Awareness among housewives and College students in Bikaner City.
9.	Ms. Pooja kilania (2019-20)	Case study of Environmental Awareness in Bikaner City (Rajasthan)
10.	Mr. Abhinav Kumar Singh Yadav (2022)	Water Quality study of surface water bodies of Bikaner Area
11.	Mr. Rahul Swami (2022)	Comparative Study of Noise level in Different area of Bikaner City Rajasthan
12.	Ms. Manisha Tard (2023)	Study of Phytodiversity in the campus of Maharaja Ganga Singh University, Bikaner Rajasthan
13.	Ms. Urmila Bhati (2023)	A Case Study on Water holding capacity of soil Bikaner
14.	Mr. Ajay Kumar Panwar (2024)	Ethno Botanical Study Of Bikaner Area
15.	Mr. Ashok (2024)	Comparative Analysis of various Soil with Respect to chemical parameters in command (Canal irrigated) and Uncommand (Well irrigated and Rainfed) area of Bikaner, east side in Bambloo Panpalsar and Pemasar Village district Bikaner Rajasthan
16.	Ms. Noreen Bhati (2025)	Study on Noise Pollution in different zones and its Impact on Human Health: A Case study of Bikaner District
Other activities		1. Convener of the National Seminar on Current Trends in Environmental Research (NSCTER-2015) 2. Convener of Regional Workshop for the Desert Region of Rajasthan on Envisaging Viksit Bharat Viksit Rajasthan@2047 Maharaja Ganga Singh Chair for Sustainable Development in Collaboration with UNICEF Rajasthan 23-24 July, 2024

Seminars and Conferences (organized/attended)	25
Membership	● Life member, Indian Science Congress Association ● Life Member, Indian Botanical Society ● Life member, Indian Fern Society
Awards	● Uparashtrapati Award in Rovering as a rover leader.

Publications: (Published paper in International/National Journals)

1. Ram R.(1997) Alelopathic effect of *Lantana camara* leaf extract on spore germination of *Marsilea* species. *Journal of Indian Botanical Society*17-2.
2. Rajaram. (1998) Comparison in reproductive capacity of wild and cultivated populations of *Marsilea* species. *J.Phytol.Res.*11(2)187-188.
3. Ram, R. (1998) Phenological Studies of wild and cultivated population of *Marsilea* species, *Indian Fern. J.* 15:65-70.
4. Ram, R. (2000) Allelopathic effect of *Parthenium hysterophorus* leaf extract on spore germination of *Marsilea* species. *J.Phytol.Res.*13(1).
5. Ram, R. (2004) Comparative Study of total phenol and total free amino acid in wild and cultivated population of *Marsilea* species. *Journal of Phytological Research*17-1, 2004.
6. Suthar, S., Choyal, R., Singh, S. and Sudesh. (2005) Stimulatory Effect of “Earth worm body fluid (Vermivash) on seed germination and seedling growth of two Legumes, *J.Phytol Res.*18(2):219-222, 2005
7. Choyal, R.R., Vyas, M.M., Gena, D. and Bishnoi, R. (2006) Diversity of Micro flora in paddy fields of Northern Rajasthan. Proceedings of conference on Biodiversity (UGC) held on Sept. 21-22,2006, M.L.V.Govt. College, Bhilwara.
8. Kumar, M., Choyal, R.R., Gena, D. and Yadav, A. (2006) The Impact of Ethnobotany in conservation on Natural Resources, Proceedings of conference on Biodiversity (UGC) held on Sept. 21-22,2006. M.L.V.Govt. College, Bhilwara.
9. Kumar, M., Gena, D. and Choyal, R. (2006/13). Agriculture Based Environmental Restoration, *Oikoassay*, Vol.19 No.1and2.
10. Choyal, R., Godara, S.K., Watts, R. and Sudesh (2006) Nutritive contents of some halophytes of I.G.N.P. Phase-I command area Loonkaransar, Bikaner, Western Rajasthan, *J.Phytol Res.* Vol.19No.1,2006.
11. Choyal, R., M. K. Yadav, R. Bishnoi & Sudesh (2006). Studies on parthenogenesis in three *Marsilea* species. *Journal of Phytological Research* 19(2):337-338
12. Sharma, S.K. and Choyal, R. (2011) Distribution of Mosses in the topography of Kangra District (H.P.), India. *Indian journal of fundamental and Applied Life Science* ISSN: 2231-6345 (Online) Vol. 1 (2)April-June,Page No.154-156 (2011).
13. Choyal, R. and Sharma, S.K. (2011) Alelopathic effect of *Lantana camara* (Linn.) on regeneration in *Funaria hygrometrica*. *Indian Journal of Fundamental and Applied Science* ISSN:2231-6345 (Online) 2011, Vol.1(3) July- September pp177- 182.
14. Choyal, R. and Sharma, S.K. (2011) Study of Moss Flora and Growth forms of Moss in varied Habitats in Dharamshala of Kangra District (H.P.), India. *Journal of Fundamental and Applied Science* ISSN:2231-6345(Online) 2011, Vol.1(3) July-September pp 271-273
15. Choyal, R. and Sharma, S.K. (2011) Study of Bryophytes of Thar Desert with particular reference to Sri Ganganagar District (Rajasthan), India. *Journal of Fundamental and Applied Science*ISSN:2231-6345 (Online)2011, Vol.1(3) July-September pp239-245.
16. Choyal, R. and Sharma, S.K. (2011) Impact of different culture media on regeneration in *Funaria hygrometrica* and *Pogonatum aloides*. *International Journal of current Biological and Medical Science*:1(4):154-157
17. Choyal, R. and Sharma, S. (2011) Preliminary Phytochemical Analysis of some Bryophytes of District Kangra (H.P.) *Research Journal of Pharmaceutical, Biological and Chemical Science*: Vol.2 Issue 4, Page No. 716 (**Impact factor 0.35**)

18. Choyal, R. and Sharma, S.K. (2011) Evaluation of Allopathic effect of *Lantana camara* (Linn.) on regeneration of *Pogonatum aloiodes* in culture media. *Asian Journal of Plant Science and Research*, 1(3):41-48
19. Choyal, R. and Sharma, S.K. (2011) Conservation of Alpine Pasture in Himachal Pradesh, India. *Environmental Conservation Journal* 12(3),109-111, ISSN=0972-3099 (**Impact factor 0.58**)
20. Kumar, N. and Choyal, R. (2012) Ethnobotanical notes on some plants used in the treatment of arthritis, rheumatism and other inflammatory disorder. *Indian journal of plant sciences An online international journal Available At [http:// www.cibtech. Org/jps.htm](http://www.cibtech.Org/jps.htm)* 2012 vol. 1 (2-3) Jul.-Sept. & Oct.-Dec. 2012,pp.
21. Kumar, N. and Choyal, R. (2012) Traditional phototherapy for snake bites by the local rural people of Hamirpur district in Himachal Pradesh (India). *Biological forum – An International Journal* 4(1): 98-106.
22. Kumar, N., Kumar, A. and Choyal, R. (2012) Ethnobotanical notes on some plants used for the treatment of Leucorrhoea and other Gynecological problems in Hamirpur district of Himachal Pradesh *Indian Journal of fundamental and applied Life Sciences, An online international Journal Available at <http://www.cibtech.vol.2>* (4) October-December, pp. 126-133.
23. Kumar, N. and Choyal, R. (2012) Traditional use of some plants of Hamirpur district of Himachal Pradesh for the treatment of Jaundice, Hepatitis and other Liver Disorders. *International Journal of theoretical & Applied Sciences*, 4(2): 201-205.
24. Kumar, N. and Choyal, R. (2013) Traditional health cure practices used for Respiratory Disorders by the rural people of Hamirpur district of Himachal Pradesh *Life Sciences Leaflets vol. 4(2013)-page no. 41-50*.
25. Kumar, N. and Choyal, R. (2013) Ethno- Medical uses of some plants of lower foot hills of Himachal Pradesh for the treatment of oral Health problems and other Mouth disorders. *International journal of advanced research, Volume 1, Issue 5,1-7. (Impact factor 1.659)*
26. Kumar, N., Choyal, R. and Godara, S.K. (2013) Ethnobotanical survey of medicinal plants used for the treatment of different diseases in Bikaner district of Rajasthan. *International Journal of advanced research, vol.1, Issue 8, 835-849(Impact factor 1.659)*
27. Kumar, N., Kumar, A. and Choyal, R. (2013) Ethno -medicinal uses of some plants of Hamirpur district of Himachal Pradesh for the treatment of piles. *Life Sciences Leaflets (2014) Volume 49 Online & Print Page- 01 to 10*.
28. Kumar, N., Kumar, A. and Choyal, R. (2014) Traditional uses of some medicinal plants of Hamirpur district of Himachal Pradesh for the treatment of Diabetes. *International Journal of advanced research (2014), Volume 2, Issue 2, 131-139 (Impact factor 1.659)*
29. Arora, S. and Choyal, R. (2014) Phytochemical monitoring of some Plants Exposed to vehicular pollution at Badarpur Ashram Road, New Delhi, India. *Asian Resonance*, VOL-III, 91-96/
30. Arora, S. and Choyal, R. (2014) Evaluation of Air Pollution Tolerance Index (Apti) of Selected Plants Species at Sarita Vihar, New Delhi, India. *Periodic Research(2014),VOL.-III, ISSUE-I, 178-185*
31. Kumar, N., Choyal, R. and Sharma, A. (2014) Traditional Uses of Some Plants of Hamirpur District as a Blood Purifier. *Biological Forum – An International Journal* 6(2): 357-363.
32. Singh, M., Choyal, R., Soni, K., Kumar, A., Meghwanshi, G.K. and Charan, P.D. (2015) Study of heavy metals in soil, water and some crops of SriGanganagar (Rajasthan), India. *Journal of Phytological Research*, 28(1&2):39-45.
33. Choyal, R., Kumar, N. and Dular, A.K. (2017) Traditional phytotherapy used by the rural peoples of Hamirpur District of HP in the treatment of sexually transmitted diseases mainly Gonorrhea and Syphilis. *Journal of Agriculture and Ecology* 4: 51-56
34. Kumari, V. and Choyal, R. (2018) Seasonal Variations of Micronutrients in Saline Tracts Soil of Bikaner Division, Rajasthan, India. *Asian Resonance* (2018), Vol. 7 (2): 32-41.
35. Kumar, A., Choyal, R. and Arora, A. (2018) Exotic plant species in irrigated parts of Division Bikaner (Rajasthan). *International Journal of Scientific Research and Reviews* Vol. 7 (2): 280-296.
36. Singh, M. and Choyal, R. (2018) Analysis of heavy metals in feces of Blue bull (*Boselaphus tragocamelus*) in Bikaner division of western Rajasthan, India. *International Journal of Research and Analytical Reviews* Vol. 3 (5): 252-256.
37. Kumari, V., Kumar, A. and Choyal, R. (2018) Impact of seasonal variations on macronutrients in saline tracts of Bikaner division, Rajasthan, India. *International Journal of Research and Analytical Reviews* Vol. 5 (3): 454-459.

38. Kumar, A., Choyal, R. and Arora, A. (2019) A Preliminary Study on Rare and Threatened Plants Species in Irrigated Parts of North-Western Rajasthan. *International Journal of Research and Analytical Reviews* E-ISSN 2348-1269, P- ISSN 2349-5138 Volume 6, Issue 1: 659-664.
39. Singh, M., Choyal, R. and Charan P.D. (2019) Determination of heavy metals in cow (*Bos indicus*) dung collected from Hanumangarh district, Rajasthan, India. *International Research Journal of Biological Sciences* ISSN 2278-3202 Vol. 8(6), 23-27.
40. Singh, M., Choyal, R., Kumar, and Charan, P.D. (2020) Distribution of Black buck (*Antelope cervicapra*) and its Conservation strategies in Hanumangarh district of Rajasthan, India. (*Indian Forester*, 146 (10): 952-955 ISSN: 0019-4816 ,E-ISSN:2321-094X.
41. Kumar, P., Choyal, R. and Reager, M.L. (2020) Nutrient dynamics in soil of canal command area of district Bikaner, Rajasthan. *Journal of Phytological Research*, 33 (1): 13-19.
42. Kumar, P., Choyal, R. and Reager, M.L. (2020) Study of underground irrigation water quality around badrasar village of Bikaner district of Rajasthan. *Journal of Phytological Research*, 33 (2): 1-7.
43. Kumar, P., Choyal, R., Jatav, M.K and Reager, M.L. (2020) Appraisal and Suitability of Irrigation Water for Crop Production around Bikaner in the North West of Rajasthan. *Int. J. Agricult. Stat. Sci.*, 16 (1): 1503-1509.
44. Kumar, P., Choyal, R., Jatav, M.K and Reager, M.L. (2020) Classification of Physico-Chemical Properties of Soils in Adjoining of Bikaner in Rajasthan. *Int. J. Agricult. Stat. Sci.*, 16 (1): 1849-1855.
45. Singh M, Kalwani S, Prajapati K. and Choyal R. (2021). Sighting of Northern Lapwing (*Vanellus vanellus*) (Linnaeus, 1758) in Bikaner, Rajasthan, India. Prithivya, An Official Newsletter of WCB Research Foundation and WCB Research Lab. Vol 1(3) 10-12.
46. Siraw V.P., Choyal R.R., Arora A. (2021) A Study on the Pollen Morphology of Asteraceae Family of Irrigated Region of Ganganagar District *National Journal of Environment and Scientific Research* January / Vol-2 / Issue-1 PP 273-277 ISSN 2582-5836
47. Siraw V.P., Choyal R.R., and Arora A. (2022) A Study on The Pollen Morphology of Some Families of Irrigated Parts of Ganganagar District *Journal of Phytological Research* 35(2):151-154 ISSN 0970-5767
48. Kaur L., Charan P.D., Choyal R.R. (2023) Evaluation of Air Pollution Tolerance Index of Some Tree Species of Bikaner (Rajasthan) *Journal "The Holistic Approach To Environment"* 13 4pp. 123 – 131 <https://doi.org/10.33765/thate.13.4.1>
49. Rathore D.S., Kaur L., and Choyal R.R. (2023) Heavy Metals Contamination in Industrial wastewater: A Case study of Bikaner (Rajasthan) *Indian Journal of Environmental Protection* vol.43 No.8, August 763-768 ISSN 0253-7141
50. Rathore D.S., Kaur L., and Choyal R.R. (2023) Assessment of Heavy Metal Remediation Potential of Selected Local Plants in Industrial Soils: A Case study of Bikaner City, India *Journal of Phytological Research* 36(2):1-10, ISSN 0970-5767
51. Rathore D.S., Kaur L., and Choyal R.R. (2023) Spatial Distribution of Arsenic and Cadmium in Industrial waste water of Bikaner City (Rajasthan) *India Bulletin of Environment, Pharmacology and Life Sciences* Volume 12 [10] September 338-342 Online ISSN 2277-1808
52. Kaur L., Charan, P.D. and Choyal R.R. (2023) Evaluation of Air Pollution Tolerance Index of Tree Species of Bikaner City (Rajasthan) *Holistic Approach Environ.* 13: 4, pp. 123 – 131 <https://doi.org/10.33765/thate.13.4.1>
53. Singh, M., Choyal, R., Kumar, and Charan, P.D. (2024) Assessment of Avian diversity and conservation status in Orchha Wildlife Sanctuary, Madhya Pradesh, India. *Indian Forester*, 150 (4): 362-371 ISSN: 0019-4816 ,E-ISSN:2321-094X. DOI: 10.36808/if/2024/v150i4/170175
54. Choudhary P., Saxena S., Saran R.K. And Choyal R.R. (2024) Comparative Analysis of Organic, Conventional, And Control Cultivation Practices on the Nutritional Composition of Chili Fruit (*Capsicum Spp.*) in Kharif and Rabi Seasons in Jaipur District, Rajasthan *J. Phytol. Res.* 37(2): 113-123, 2024 ISSN 0970-576
55. Meghwanshi K.G., Verma S., Choyal, R.R., Vashishta, A., Trinh, T.T. Nhung, and Kumar, R. (2025) Biocatalysis in Transforming Biofuel Technologies. *Frontiers in Bioscience Elite Ed* 2025; 17(2): 37729 <https://doi.org/10.31083/FBE37729>
56. Kaur L., Rathore D.S. and Choyal R. R. (2026) Spatial distribution, pollution characteristics and risk assessment of heavy metals in soils: A case study in the desert city of India. *EQA - International Journal of Environmental Quality* ISSN 2281-4485 - Vol. 72: 1-14 DOI: 10.60923/issn.2281-4485/22454

Edited Book Chapter

1. Air-born micro-bio particles as allergens, Recent trends in Microbiology (Edited book), Madhu Publications, Bikaner. **(Edited Book ISBN 81-86644-23-7, 2012).**
2. Some important Ethnomedicinal plants of Hamirpur District, Himachal Pradesh. Ethnobotany “A Recent Approach” 60-67 **(Edited book ISBN 81-86644-26-1, 2015)** Madhu Publications, Bikaner.
3. Ethnomedicinal Notes on some Magico- Religious plants of Himachal Pradesh. Ethnobotany “A Recent Approach” 155-171 **(Edited book ISBN 81-86644-26-1, 2015)** Madhu Publications, Bikaner.
4. The interactive whiteboard in English as a Foreign Language (EFL) Classroom. 35-42 **(Edited book ISBN 978-93-84189-18-1)** Abhinav Prakashan Ajmer.
5. Wisdom of Yoga and Medication: A Tight Rope to walk **(Edited book ISBN 978-93-86713-53-7)** Twenty first Century publications Patiala.
6. Harnessing Fungal Enzymes through Bioengineering for industrial and Pharmaceutical Applications (Edited book ISBN 978-93-9045-69-9 Volume -3 Diversity, Conservation and Biotechnology of Fungi by AGROBIOS, India)
7. Microbial Strategies for Sustainable Phosphorus Management in Agriculture: From Diversity to delivery systems (Edited book ISBN 978-93-49045-36-1 Volume -1 Diversity, Conservation and Biotechnology of Microbes by AGROBIOS RESEARCH, India)
8. A Comprehensive study of Desertification in the Thar Desert: Causes, Drivers, Ecological impacts and Sustainable Mitigation Strategies (Edited book ISBN 978-93-92620-87-4 Volume -1 (Nourishing the Planet: Sustainable Nutritional Resources, Climate and Biotechnology) by EDU Academic Incorporation International Publication, India.

Presented Paper in Conferences

1. Comparative Analysis of total soluble protein and total soluble sugars in wild and cultivated population's of *Marsilea* species. XXVIII Conference of Indian Botanical Society Oct. 24-26, 2005. BSI Dehradun.
2. Plant of Thar Desert and Bio-pollution, Presented in National Seminar on Natural Resource management (UGC) Oct. 31-Nov. 2, 2006 Govt. Dungar College, Bikaner.
3. Bioinformatics: The foundation key of present and future biotechnology, presented in National Seminar on “Bioinformatics and Computer Applications Nov. 26-27, 2006, Organized by University of Bikaner and M.N. Institute of Applied Sciences, Bikaner.
4. Comparative study of Alkaliphiles of Natural and Alkaline Environment presented in National Conference on Emerging Trends in Microbiology and Biotechnology, 29-30 Jan., 2007, Organized by Dr. Tanveer Malawat College of Biosciences, Bikaner, Society of Basic and applied Microbiologist and University of Bikaner, Bikaner.
5. A study on Naso-bronchial allergy causing airborne fungal spores in Bikaner, presented in National Conference on Emerging Trends in Microbiology and Biotechnology, 29-30 Jan., 2007, Organized by Dr. Tanveer Malawat College of Biosciences, Bikaner, Society of Basic and applied Microbiologist and University of Bikaner, Bikaner.
6. Export potential in unutilized plants of desert area of Rajasthan “Desert Dwellers”. Presented and published in proceeding of Indian Council of Agricultural Research, New Delhi. (28-30 June, 2008).
7. Value added processing of arid and semi arid legumes for export opportunities. Presented and published in proceeding of Indian Council of Agricultural Research, New Delhi-28-30 June, 2008.
8. Biotechnology, Biosafety and Intellectual Property Rights and Issues. Presented and published in proceeding of Indian Council of Agricultural Research, New Delhi- 28-30 June, 2008.
9. Enhancing Productivity, Nutritional Security and Export Potential through Organic Farming and Environment in Arid Legumes. Presented and published in proceeding of Indian Council of Agricultural Research, New Delhi-28-30 June, 2008.

10. Effect of the air pollution on leaf optics of the road side plants of district SriGanganagar. Presented in 36thNational conference (26-28 September 2008) changing Geographies and Overt for sustainability. Dr. B.R.A.Govt. College, Sri Ganganagar.
11. Study of Biodiversity in the Pong Wetland (Himachal Pradesh). International Conference on Advances in Ecological Research- Maharaja Ganga Singh University, Bikaner in Collaboration with Nature Conservators. (December 19-21, 2011).
12. Plant: Taxonomy and Diversity presented in National seminar on “National Workshop on Biodiversity: Measurement, Assessment, and Conservation” (sponsored by UGC, New Delhi) February 21-23, 2012 organized by Maharishi Dayanand College Sri Ganganagar.
13. English place vital role as medium of technical education presented in National symposium on “Interrogating new worlds of English language teaching” Department of English, Maharaja Ganga Singh University, Bikaner & English Language teaching Institute, IASE, Bikaner. (24-25 February 2012).
14. Role of Ethnic and Indigenous people of Himachal Pradesh in the Conservation of Phytodiversity. Presented in National Seminar on “Current Trends in Environmental Research” (February 28- March 02, 2015) Department of Environmental Science Maharaja Ganga Singh University, Bikaner.
15. Estimation of Phytochemical characters of some plants in response to vehicular Air Pollution Stress at kalaji, New Delhi, India. Presented in National Seminar on “Current Trends in Environmental Research” (February 28, - March 02, 2015) Department of Environmental Science Maharaja Ganga Singh University, Bikaner.
16. Phytochemical change in some selected trees induced by automobile exhaust at Nehru Place, New Delhi, India. Presented in National Seminar on “Current Trends in Environmental Research” (February 28, - March 02, 2015) Department of Environmental Science Maharaja Ganga Singh University, Bikaner.
17. Variation in Air Pollution Tolerance index of some plants at Malviya Nagar, New Delhi, India. Presented in National Seminar on “Overpopulation and its effects on Environment” (January 15-16, 2016) UGC Cell Gramin Mahila Mahavidalaya, Sikar Rajasthan.
18. Urbanization and Urban Climate: A Study of Synoptic Transformation of Spatial Environment. Presented in National Seminar on “Overpopulation and its effects on Environment” (January 15-16, 2016) UGC Cell Gramin Mahila Mahavidalaya, Sikar, Rajasthan.
19. Study on Medicinal Plants of the Thar Desert of Bikaner Division, Rajasthan. Presented in National Seminar on “Agriculture Resource Management for Sustainability and Eco- Restoration” (March 11-13, 2016) Society for Agriculture and Arid Research ICAR-CIAH, Bikaner, Rajasthan.
20. Survival strategies of plants in North-Western Desert of Rajasthan. Presented in National seminar on “Agriculture Resource Management for Sustainability and Eco- Restoration” (March 11-13, 2016) Society for Agriculture and Arid Research ICAR-CIAH, Bikaner, Rajasthan.
21. State Universities: Facing identity of crisis in whirlpool of political interference. Presented in National Seminar on “National Policy on Education 2016: Issues, Challenges and Suggestions” (17th October 2016) Organized by Maharaja Ganga Singh University, Bikaner Rajasthan.
22. Phytochemical changes in certain plants due to vehicular emission around Sarita Vihar, New Delhi, India. Presented in National Seminar on Environmental Management and Technology (8-9 March, 2017) Organized by Department of Environmental Science, Maharaja Ganga Singh University, Bikaner, Rajasthan.
23. “Bharat Charitar: Aaj k samaj ka Darpan” National seminar on *Revisting Ramayana* in Department OF English and Madan Mohan Malviya Centre for Value Education Maharaja Ganga Singh University, Bikaner (17-18 January 2019).
24. A invited talk on “*Identification of Research Problem and Preparation of Research Plan*” National seminar modern trends in Research Methodology on 27-28 May, 2023 at Tania University, SriGanganagar Rajasthan.
25. Presented a paper on “Water Resource Management in Western Desert Region of Rajasthan” in Regional Workshop for the Desert Region of Rajasthan on Envisaging Vikisit Bharat Vikisit Rajasthan@2047 Maharaja Ganga Singh Chair for Sustainable Development in Collaboration with UNICEF Rajasthan 23-24 July, 2024.
26. Presented a paper on “Role of Youth in Development” in International Conference on “Holistic Development in the 21st Century: Integrating Science, Society and Sustainability” Organized by Basic P.G. College and Maharaja Ganga Singh University, Bikaner Rajasthan on 29 April, 2026

Invited Lectures

1. An invited talk "Methods of Data collection" Ph.D. course work (MPCET-2013) at MGS University, Bikaner on 12-07-2014.
2. Rajasthan desert and impact of canal in north-western Region. National Seminar on Current Trends in Environmental Research (February 28, - March 02, 2015) Department of Environmental Science Maharaja Ganga Singh University, Bikaner.
3. An invited talk "Guidelines for writing a Research paper on 30-11-2015 at Ph.D. Course work MPCET-2014 phase I at MGS University, Bikaner.
4. An invited talk "Higher education and women's rights "one day National workshop on women's Rights as Human Rights (25th January, 2016) at Maharaja Ganga Singh University, Bikaner.
5. A workshop attended on "Climate Change Mitigation and Adaptation in Hot Arid Region" (26th February, 2016) Central Arid Zone Research Institute, Regional Research Station, Bikaner.
6. An invited talk on National policy on Education and Human rights two days National Seminar (14-15 May, 2016) at J.B.T.T. Institute, Sadulsahar.
7. A invited lecture "Time and stress Management" on 27/09/2016 at Ph.D. Course Work-2015, Phase- I Organized from 11/08/2016- 22/10/2016 in Maharaja Ganga Singh University, Bikaner.
8. A invited lecture "women's role in education as a vital national building" in National Seminar on Education and Gender Sensitivity (October 16-17, 2016) Organized by Kanoria B.Ed. College, Mukundgarh, Rajasthan.
9. A invited lecture "Traditional practices of natural resources conservation" at SKD College for higher education, Hanumangarh, Rajasthan (December 10, 2016).
10. A invited lecture on "New trends in Research in Present Education Scenario" in National Workshop on Research Methodology (20 December, 2016) Organized by Gramothan Vidyapeeth College of Education (CTE), Sangaria, Distt. -Hanumangarh Raj.
11. A invited lecture "Use of Biotechnology for the Human Welfare" in National Conference on Biotechnology for sustainable Development (December 23-24, 2016) Organized by Maharshi Dayanand College Sri Ganganagar, Rajasthan.
12. A invited talk on "KEY TO A VIRTUOUS LIFE" at Ph.D. Course Work, (MPCET-2016) 03-10-2017 in Maharaja Ganga Singh University, Bikaner.
13. A invited talk on "Methods of data collection" in National Seminar on Modern Trends in Research Methodology. January 07-08, 2019 in Tania University SriGanganagar, Rajasthan.
14. A invited talk on "Vocational Education and Training "Skills for Virtuous Life" in National seminar on Vocational Education and Training "Skills for Life sponsored by IQAC. 07 April, 2019 at J.B.T.T. Institute, Sadulsahar.
15. A invited talk on "Climate change and Environmental issues" in Regional officer training center, Bikaner. 05 February, 2020.
16. A invited talk on "Impact of Canal Irrigation on The Phytodiversity of Thar Desert" in FDP, Govt. Dunder College Bikaner, Feb 24, 2021
17. A invited talk on "Covid-19: Present and Post-pandemic Scenario" in International E- Conference Organized by MJD Govt. College, Taranagar, Churu (Raj.) in Collaboration with Abhimanch Sahitya Sabha, New Delhi, June 14, 2020.
18. A invited talk on "Aatm-Nirbhar Bharat Abhiyan" in Online E- Camp Organized by Rajasthan Directorate Group HQ. Churu, August 25, 2020.
19. A invited talk on "Climate Change and Environmental Issues" in Gyan Ganga Programme, M.S. College for women Bikaner, Feb 25, 2021
20. As Keynote speaker in one day National Seminar on "Start Ups: Issues, Barriers and Opportunities in India" Organized by Government College, Bhattu Kalan Fatehabad, Haryana Sponsored by Directorate of Higher Education, Haryana March 18, 2024
21. As Keynote speaker in workshop on "Grassland and Desert Ecosystem of Rajasthan" Organized by The Centre for Policy Design (CPD), ATREE at Maharaja Ganga Singh University, Bikaner Rajasthan 22-23 January, 2025

22. As Keynote speaker on “Solid Waste and their Management in India” in National Conference on “Role of Biotechnology in Agriculture, Chemical, Physical and Environmental Sciences for Sustainable Development” **Pulkit College of Higher Education and Sponsored by Department of Science and Technology** (06-07 February, 2025)
23. As Resource Person in one day International Seminar on “Indigenous Knowledge, Self Reliance and Sustainability” Organized by Government College, Bhattu Kalan Fatehabad, Haryana Sponsored by Directorate of Higher Education, Haryana February 23, 2025
24. As Keynote speaker on “Water Resource Management in Western Desert Region of Rajasthan” in **Faculty Development Program on Innovative Strategies in Geography and Environmental Studies for Sustainable Development** Organized by Department of Geography, IASE (Deemed to be University), Sardarshahar, Rajasthan (18 April, 2025)
25. As Keynote speaker on “Climate Change and Environmental Issues” in **Faculty Development Program on Innovative Strategies in Geography and Environmental Studies for Sustainable Development** Organized by Department of Geography, IASE (Deemed to be University), Sardarshahar, Rajasthan (24 April, 2025)
26. A Extension lecture on “Key To A Virtuous Life” at Bheem Sain Choudhary Government College, Lunkaransar (31-05-2025)
27. Invited as Special Guest in One day National Seminar on “Integrating Indigenous Knowledge with Modern Science for Sustainable Development organized by Eklavya Vidhyapeeth P.G. Mahavidhyalya in Bhadra, Rajasthan (24 January,2026)
28. As Keynote speaker on “National Education Policy 2020- Initiative for the promotion of Indian Culture Organized a by National Seminar Indian Council of Social Science Research, New Delhi Collaboration Smt. Kamla devi Gauridutt Mittal Mahila P.G. Mahavidyala, Sardarshahar, Rajasthan (18-19 March, 2026)
29. As Keynote speaker on “Acting Locally for Global Impact” Celebration of International Day for Biodiversity 2026 by Department of Environmental Science, Maharaja Ganga Singh University, Bikaner and Rajasthan State Biodiversity Board, Rajasthan on 22 May, 2026

Date: 16-08-2026

Place: Bikaner



Prof. Rajaram Choyal